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Before the
Federal Communications Commission
Washington, D.C. 20554

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Amendment of Parts 2 and 97 of the Commission's Rules to Create a Low Frequency Allocation for the Amateur Radio Service

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ET Docket No. 02-98

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Adopted: March 24, 2004

Released: March 31, 2004

By the Commission:

1. By this Memorandum Opinion and Order (MO&O), we deny the Petition for Reconsideration filed by Mr. W. Lee McVey (petitioner) in response to the Commission's decision in this proceeding.¹ We find the arguments and information provided in the Petition were substantively addressed by the *Report and Order* and do not merit further consideration.

2. In the *Report and Order*, the Commission denied a petition by the American Radio Relay League, Inc. (ARRL) requesting, *inter alia*, that the Commission make a secondary allocation to the Amateur Radio Service (ARS) in the 160-190 kHz band for experimentation in the low frequency (LF) range.² Amateur use of the 160-190 kHz band is permitted under our Part 15 rules, and use of any band, including the LF band, can be permitted under our experimental rules on a case-by-case basis.³ The band is allocated to both the fixed and maritime mobile services on a primary basis for Federal Government users and also to the fixed service on a primary basis for non-Federal Government users.⁴ There are ten Federal Government assignments for coast stations communicating with ships at sea, and several Federal Government fixed service sites in this band. There are no non-Federal Government assignments in the Commission's database for this frequency band.

¹ *Amendment of Parts 2 and 97 of the Commission's Rules to Create a Low Frequency Allocation for the Amateur Radio Service*, ET Docket No. 02-98, *Report and Order*, 18 FCC Rcd 10258 (2003) (hereinafter *Report and Order*); *Petition for Reconsideration*, March 19, 2003, Mr. W. Lee McVey (hereinafter *Petition*).

² The amateur radio service, governed by Part 97 of the Commission's Rules, provides spectrum for amateur radio service licensees ("amateurs") to participate in a voluntary noncommercial communication service which provides emergency communications and allows experimentation with various radio techniques and technologies to further the understanding of radio use and the development of new technologies. See 47 C.F.R. § 97.1

³ See generally 47 C.F.R. Parts 5 and 15.

⁴ The non-Federal Government fixed service in this band is regulated under Part 23 of the Commission's Rules.

3. In addition, unlicensed devices use the LF spectrum. These systems do not have any allocation status, but are authorized to operate under our Part 15 rules on an unprotected, non-interference basis with respect to all other users. Section 15.209 generally permits unlicensed operation at power limits of 4.9 microvolts/meter. Further, Section 15.113 specifically permits Power Line Carrier (PLC) systems to operate on power transmission lines for communications important to the reliability and security of electric service to the public in the 9-490 kHz band.⁵ In this regard, utility companies have generally come to rely on PLC systems to support a variety of monitoring and control functions of the national power grid. For example, electric utility operators use PLC signaling systems in this band in conjunction with monitoring devices to detect malfunctions and damage to power transmission facilities such as transformer failures and downed lines. When such events occur, these same PLC systems then are used to remotely trip protection circuits that minimize damage to the power system and eliminate danger to individuals in the area of the event.

DISCUSSION

2. We deny this Petition for Reconsideration because the arguments and information provided in the Petition were substantively addressed by the *Report and Order* and do not merit further consideration. In denying the request for a secondary allocation for ARS in the 160-190 kHz band in the *Report and Order*, the Commission stated its conclusion that the potential benefits of a secondary allocation to the ARS were outweighed by the potential harmful interference between amateur operations and PLC systems used to communicate monitoring and control information for the nation's electric power grid, and thus would jeopardize the reliability of electrical service to the public.⁶ The Commission agreed with commenters that a secondary ARS allocation could require cessation or modification of PLC operations to avoid interference to amateur operations.⁷ Moreover, the Commission found that although other techniques suggested by commenters, including the petitioner herein, could be used to control the power grid, these alternatives may not be as effective, would be costly to implement, and would be disruptive to the public.⁸ The Commission also concluded that while unlicensed PLC operations operating under our Part 15 rules have no protection status, they provide a vital public service and the potential for harmful interference to such systems implicates the protection and control of the national power grid. The Commission concluded that given the other available opportunities for amateur use of the LF bands, i.e. under either an experimental or unlicensed basis, the secondary ARS allocation was not justified when weighed against the greater public interest of an interference-free power grid.⁹

3. The petitioner asserts that the Commission's denial of a secondary ARS allocation was based on an erroneous conclusion that PLC systems are critical to the infrastructure security of electric power networks. The petitioner further asserts that based on this conclusion, the Commission failed to take proper action by continuing to rely upon Part 15 regulations to protect such alleged vital communications. Consequently, the petitioner requests that the Commission, on reconsideration, allocate a portion of the

⁵ See 47 C.F.R. §§ 15.113, 15.209 and 15.217; see also 47 C.F.R. §2.106 footnote US294. In addition, section 15.209 permits operation of authorized unlicensed systems with field strengths of up to 4.9 microvolts/meter in the 9-490 kHz band, while section 15.217 permits use of the 160-190 kHz band for general unlicensed operations limited to one watt total input power to the final radio frequency stage (exclusive of filament or heater power) with the length of the transmission line, antenna and ground lead not to exceed 15 meters. However, emissions outside of the 160-190 kHz band must be attenuated by at least 20 dB below the level of the unmodulated carrier.

⁶ PLC systems operate on an unlicensed basis pursuant to in Section 15.113 of our rules. See 47 C.F.R. § 15.113.

⁷ The Commission noted the concern of utility commenters that an allocation for ARS could subject them to interference complaints from amateurs, as supported by ARRL's own statements identifying this potential. See *Report and Order* at 10264, para. 19.

⁸ *Id.*

⁹ *Id.*, para. 20.

160-190 kHz band for PLC on a primary basis and adopt certain technical and service rules for PLC systems, such as narrow-bandwidth channels, type acceptance of encrypted equipment and licensing on specific channels within the band. Although the petitioner supported a secondary ARS allocation in comments he filed in response to the *Notice* in this proceeding, he does not ask us to reconsider our decision in this regard and to provide such an allocation.¹⁰

4. On reconsideration, the petitioner primarily reiterates the opinion he expressed in comments filed in response to the *Notice* in this proceeding that PLC use in power grid infrastructure is insignificant and alternative technologies should be encouraged.¹¹ Although the Petition provides additional specific information about PLC systems and alternative technologies used by electric power networks, this information is not substantially different from information in the record, including that supplied by petitioner in his comments, when the Commission made its subject decision.¹² Based on its analysis of the record, including information provided by utility companies that use PLC systems, the Commission found that utility companies have come to rely on PLC systems for monitoring and control of the power grid.¹³ Although the petitioner may disagree with this conclusion, it was based on record evidence, and the petitioner has not provided evidence that contests this conclusion.

5. We also disagree with the Petition's assertion that the Commission failed to take proper action by continuing to rely upon Part 15 regulations to protect such alleged vital communications and that we should instead provide a primary allocation for PLC systems in this band. PLC systems have been operating successfully in this band for many years on an unlicensed basis pursuant to the Part 15 rules. The Commission acted responsibly in deciding not to modify the allocations for the band. As we noted in the *Report and Order*, the Commission considers the potential for interference conflicts between different types of operations, whether licensed or unlicensed, when it considers whether to make allocation changes to a band. That we found a potential threat to PLC operations in the licensing of a new service in the band is not to say that current operations are uncertain or insecure. The Commission concluded therein that it was better to maintain the *status quo* than to differentiate the status of one service *vis-à-vis* another in the band.

6. Finally, in the *Notice* in this proceeding, the Commission did not propose to provide an allocation for PLC systems in this band, and thus the Petition's request that we do so on reconsideration is beyond the scope of this proceeding. Further, we will not initiate a proceeding to provide such an allocation, nor to provide technical and service rules for PLC systems as the Petition requests. We note that the petitioner raised similar arguments in comments filed in response to the *Notice*, suggesting that if PLC systems used narrow-band channels, a portion of the band could be made available for an ARS allocation.¹⁴ We determined in the *Report and Order* that although other techniques suggested by commenters, including the petitioner here, could be used to control the power grid, these alternatives may not be as effective, would be costly to implement, and would be disruptive to the public.¹⁵ The Petition does not persuade us that we should revisit this issue at this time.

¹⁰ See comments of McVey, filed July 23, 2002, and reply comments of McVey filed July 26, 2002 and July 31, 2002.

¹¹ See comments of petitioner in paragraph 2, filed July 23, 2002, and reply comments of McVey filed July 26, 2002 and July 31, 2002.

¹² See reply comments of McVey filed July 26, 2002, and July 31, 2002.

¹³ See *Report and Order* at 10264, para. 19.

¹⁴ See reply comments of McVey, filed July 31, 2002.

¹⁵ *Id.*

7. In conclusion, the petitioner alternately reiterates arguments and information already considered in the *Report and Order*, and requests action beyond the scope of this proceeding. Further, we conclude that, on balance, our decision properly balances concerns for PLC use supporting the protection and control of the national power grid, without unduly constraining amateur use of the band. We, therefore, deny this Petition.

ORDERING CLAUSES

8. Accordingly, IT IS ORDERED that pursuant to the authority contained in Sections 4(i), 303(c), 303(f), 303(g), and 303(r) of the Communications Act of 1934, as amended, 47 U.S.C. §§ 154(i), 303(c), 303(f), 303(g), and 303(r), the Petition for Reconsideration filed by petitioner IS DENIED.

FEDERAL COMMUNICATIONS COMMISSION

Marlene H. Dortch
Secretary